UC-350E+ Encoder

User's Manual

Date : 2014-04-23

Version: 1.4

NMS Version: 5.0.20

SW: 0.07F

HW: 1.0

DIRECTORY

CHAPTER 1 PRODUCT OUTLINE 1

1.1 OUTLINE 1

1.2 FEATURES 1

1.3 SPECIFICATIONS 1

1.4 INNER PRINCIPLE 3

1.5 APPEARANCE AND DESCRIPTION 3

CHAPTER 2 INSTALLATION GUIDE 4

2.1 ACQUISITION CHECK 4

2.2 INSTALLATION PREPARATION 4

2.3 WIRE CONNECTIONS 6

2.4 SIGNAL CABLE CONNECTION 7

CHAPTER 3 OPERATION 10

3.1 INITIALIZING 10

3.2 GENERAL SETTING 11

CHAPTER 4 NMS SETTING 23

4.1 INSTALLATION 23

4.2 SOFTWARE OPERATION 23

4.3 UC-350E MPEG-2/H.264 SD ENCODER OPERATION 29

CHAPTER 5 TROUBLESHOOTING 45

CHAPTER 6 PACKING LIST 46

Chapter 1

Product Outline

1.1 Outline

The UC-350E+ Encoder is Upcom Technology's newest professional SD Video & Audio encoding and multiplexing device with full functionality. It has one video along with two simultaneous audio encoders, which support MPEG-2 and H.264 encoding types. Furthermore, it can support MPEG-1 Audio layer II, LC-ACC, HE-AAC V2, and can support ultra low video bit-rate (0.25~15Mbps for H.264 encoding, and 0.5~15Mbps for MPEG-2 encoding). Moreover, it has one ASI input interface and can multiplex the encoder channels while giving ASI/IP output simultaneously.

1.2 Features

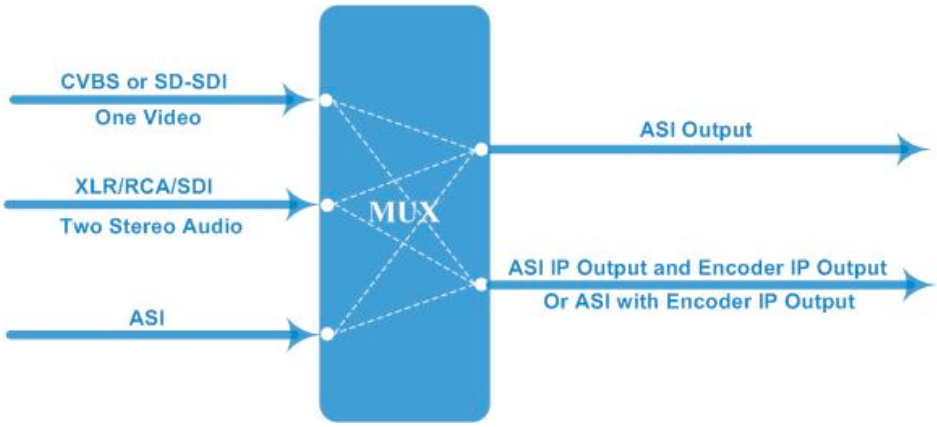
- Support H.264, MPEG2 Encoding.
- MPEG1 Audio Layer Ⅱ, LC-AAC, HE-AAC V2
- Support 4 Mono Encoding.
- Support VBR/CBR Video Encoding.
- Support Ultra Low Bit-Rate Encoding.
- Support 1xSPTS UDP IP Output.
- Real-time Output Bit-Rate monitoring.
- LCD / Keyboard and NMS operation.

1.3 Specifications

Input	2*XLR input,1*SD-SDI input	
	1*CVBS input, 2*RCA inputs	
	1*ASI input, BNC interface	
Video	Resolution	PAL:720*576/352*288/320*240/320*180/176*144/ 160*120/160*90@50Hz

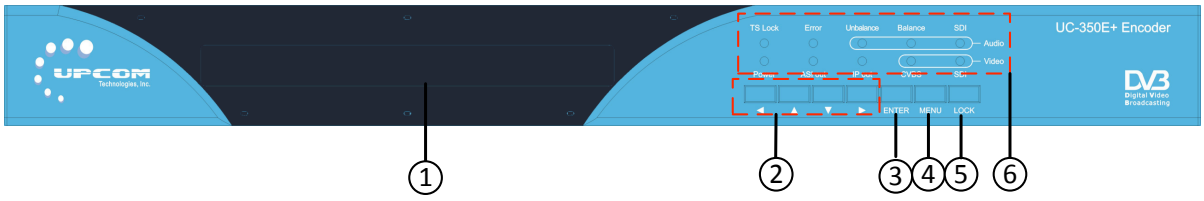
		NTSC:720*480/352*288/320*240/320*180/176*144/ 160*120/160*90@59.94Hz
	Encoding	MPEG-2 /H.264
	Bit rate	0.25~15Mbps for H.264 Encoding 0.5~15Mbps for MPEG-2 Encoding
	Rate Control	ConstantBitRate/VariableBitRate
	GOP Structure	IBBP
	Advanced Pretreatment	De-interlacing, noise reduction, sharpening
Audio	Encoding	MPEG1 Audio Layer Ⅱ, LC-AAC,HE-AAC V2
	Sampling rate	48KHz
	Bit-rate	64Kb/s~384Kb/s (each channel)
Multiplexing		1 ASI input multiplexed with local 1 channel TS
Stream output		2 *ASI outputs, BNC interface
		SPTS over UDP,10/100Base-T Ethernet interface (UDP unicast / multicast)
System function		LCD/keyboard operation, NMS support, Ethernet software upgrade
		English control interface
General	Dimensions	482mm×455mm×44.5mm (WxDxH)
	Approx Weight	4Kg
	Temperature Range	0~45℃(operation)，-20~80℃(storage)
	Power Requirements	AC 100V±10%，50/60Hz or AC 240V±10%，50/60Hz
	Power Consumption	17.6W

1.4 Inner Architecture



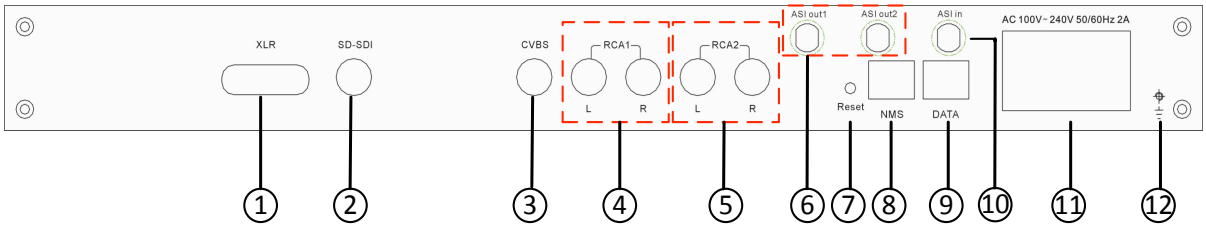
1.5 Appearance and Description

Front Panel Illustration



1	LCD Window
2	Left /Right, Up /Down Button
3	Enter key
4	Menu Key
5	Lock Key
6	LED Indicators

Rear Panel Illustration



1	2*XLR input
2	1*SD-SDI input
3	1*CVBS input

4	1*RCA1 input
5	1*RCA2 input
6	2*ASI Out
7	Reset Button
8	NMS (Network Management port)
9	IP Output port
10	ASI Input interface
11	Power Switch and Power socket
12	Grounding Pole

Chapter 2 Installation Guide

2.1 Packaging Check

When users first open the device packaging it is advised to check items according to the packing list. It normally includes the following items:

- UC-350E+ Encoder.
- XLR interface input cable.
- Analog Audio/Video Composite Input Cable.
- ASI Cable.
- Power Cord.

If any item is missing from the list please contact your local dealer.

2.2 Installation Preparation

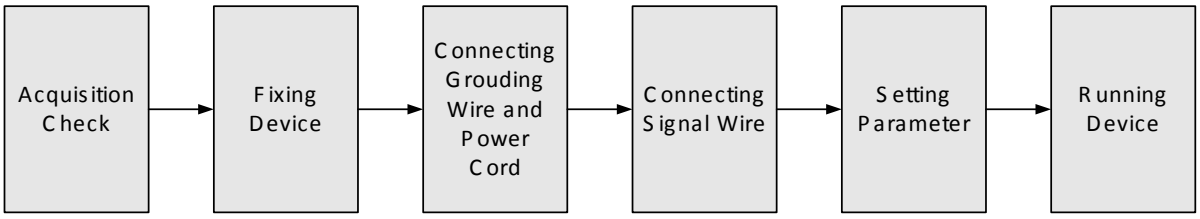
When installing the device, please make sure to follow all the steps listed below. The installation details will be expanded throughout this chapter. Users should also refer to the rear panel chart during installation.

The main contents of this chapter include:

- Ensuring device was not damaged during transportation.
- Preparing a proper environment for installation.
- Installation of the Encoder.

- Connecting the Encoder's signal cables.
- Connecting the communication ports (if necessary).

2.2.1 Device's Installation Flow Chart Illustrated as following:



2.2.2 Environmental Requirements

Item	Requirement
Required Dimensions	When installing the device on an equipment rack, the distance between 2 rows of equipment should be 1.2~1.5m while the distance from walls should be no less than 0.8m.
Datacenter	Electrically Isolated & Dust Free environment required. Resistivity of ground anti-static material: $1X10^{7}$~$1X10^{10\Omega}$, Grounding current limiting resistance: 1M (Floor bearing should be greater than 450Kg/m²)
Environment Temperature	5~40□ (Sustainable), 0~45□ (Short term) Installing an air-conditioning system is strongly recommended.
Relative Temperature	20%~80% Sustainable - 10%~90% Short term.
Pressure	86~105KPa
Door & Window	Install rubber strips for sealing door-gaps and dual pane glasses for windows.
Wall	Please ensure wallpapers or paint do not release particles into the datacenter airflow.
Fire Protection	Fire alarm system and extinguishers.
Power	Ensure device power source, air-conditioning power source and lighting power sources are independent circuits. Device power supply requires AC power at 240V 50Hz. Please check carefully for power line problems before powering on the equipment.

2.2.3 Grounding Requirement

- Good grounding practices will ensure the proper function and long-term reliability of the device. This will provide protection from power surges and interference. It is imperative the unit is used only when properly grounded.
- Coaxial cable's outer conductor and isolation layers should keep proper electric conduction with the device's metal housing.
- Grounding wires must contain copper conductors in order to reduce high frequency impedance. The grounding wire must also be as thick and as short as possible.
- Users should make sure the two terminations of their grounding cables are properly secured. Current pass-through should be tested. Anti-rust should be applied on all relevant connections.
- Do not include any other devices in this unit's grounding circuit.
- The minimum contact patch area between the grounding wire and the device's frame should be no less than 25mm^2.

2.2.4 Frame Grounding

All the machine frames should be connected with protective copper strip. The grounding wire should be as short as possible and avoid circling. The minimum contact patch area between the grounding wire and the device's frame should be no less than 25mm^2.

2.2.5 Device Grounding

Connect the device's grounding point to the rack's grounding pole with copper wire.

2.3 Wire's Connection

The grounding wire conductive screw is located on the device's rear panel adjacent to the AC Plug connector.

- Connecting Power Cord

  User should insert one end into power supply socket and the other end into device's AC power source.
- Connecting Grounding Wire

If possible, connect the device's grounding wire in an unshared circuit. If the grounding circuit is to be shared with other devices, the grounding resistance should be equal to or less than 1Ω.

☞**Caution:**

Before connecting a power cord to UC-350E+ Encoder, user should first ensure the device power switch is set to "OFF".

2.4 Signal Cable Connections

The signal cable connections consist of input and output signal cables. Descriptions of the possible connection types follow below:

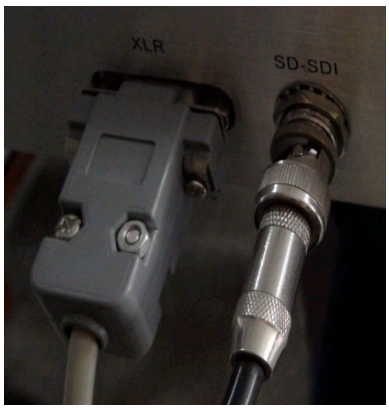
2.4.1 XLR Interface Input Cable Connection

Users can find the XLR interface input connector on the device's rear panel. If in doubt, refer to the rear panel illustration included in this manual (chapter 1.5). The required XLR interface cable is included in the device's packaging. One end is connected to the signal source equipment while the other end is connected to the Encoder's XLR input interface. The Encoder's XLR interface input port and its connected cable is illustrated below:

2.4.2 SD-SDI input cable connection

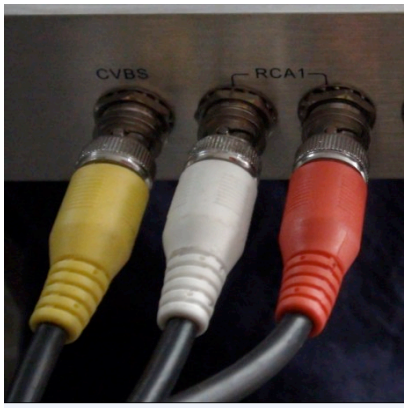
Users can find the SDI interface input connector on the device's rear panel. If in doubt, refer to the rear panel illustration included in this manual (chapter 1.5). The required SDI (BNC) interface cable is included in the device's packaging. One end is connected to the

signal source equipment while the other end is connected to the Encoder's SDI (BNC) input interface. The Encoder's SDI interface input port and its connected BNC cable is illustrated below:



2.4.3 Unbalanced Audio and CVBS Video Input Connection

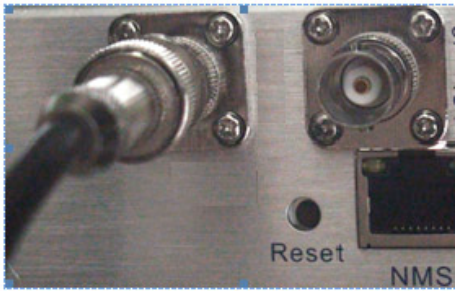
Users can find the CVBS and RCA interface input connectors on the device's rear panel. If in doubt, refer to the rear panel illustration included in this manual (chapter 1.5). The required CVBS and RCA interface cable is included in the device's packaging. One end is connected to the signal source equipment while the other end is connected to the Encoder's CVBS and RCA input interfaces. The Encoder's CVBS and RCA interface input ports and its connected cables are illustrated below:



2.4.4 ASI Output Interface Connection

Users can find the ASI interface output connector on the device's rear panel. If in doubt, refer to the rear panel illustration included in this manual (chapter 1.5). The required ASI interface cable is included in the device's packaging. One end is connected to the

Encoder while the other end is connected to the intended receiving device. The Encoder's ASI interface output port and its connected cable are illustrated below:

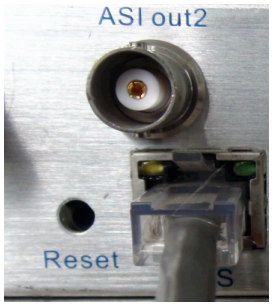


2.4.5 IP Output Interface connection

User can find the Data interface network connector on the device's rear panel. If in doubt, refer to the rear panel illustration included in this manual (chapter 1.5). A standard CAT5 or CAT6 cable is required. One end is connected to the Encoder's Data port while the other end is connected to the relevant networking device. The encoder's Data interface output port and its connected cable is illustrated below:

2.4.6 NMS Connection

User can find the NMS interface network connector on the device's rear panel. If in doubt, refer to the rear panel illustration included in this manual (chapter 1.5). A standard CAT5 or CAT6 cable is required. One end is connected to the Encoder's NMS port while the other end is connected to the relevant networking device. The encoder's NMS network port and its connected cable is illustrated below:



Chapter 3 Operation

The UC-350E+ can be controlled locally through a front panel LCD screen and associated button controls or remotely through Upcom's NMS software. Users can operate the equipment using factory default settings or customize the configuration to suit their individual needs. This chapter will cover unit configuration and operation.

Keyboard Function Description:

MENU: Canceling presently entered value, resuming previous setting; Return to previous menu.

ENTER: Activating the parameters that need modification, or confirming the change after modification.

LEFT/RIGHT: Menu navigation.

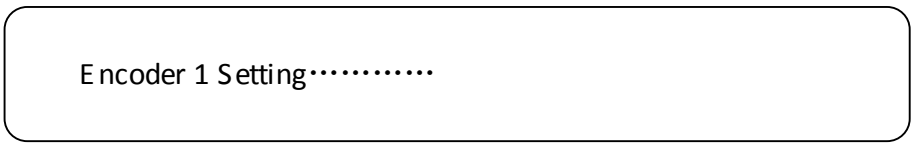
UP/DOWN: Menu navigation.

LOCK: Lock the screen / cancel the lock state. After pressing lock key, the system will question the user whether to save present settings to memory. If not, the LCD will display the current configuration state.

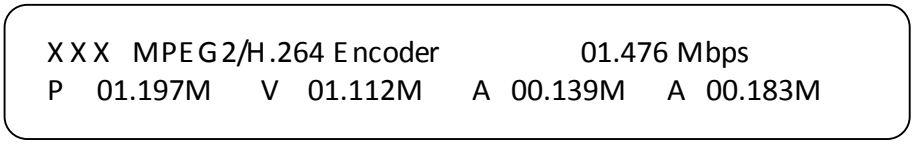
At the "Resume Factory Settings" submenu, users can press "ENTER" key to confirm a return to factory settings. This will erase all current settings.

3.1 Initializing

Once the unit is powered on it will first test whether it has an input signal source. If a correct signal source is detected the device will begin encoding immediately. The LCD will display the following message:

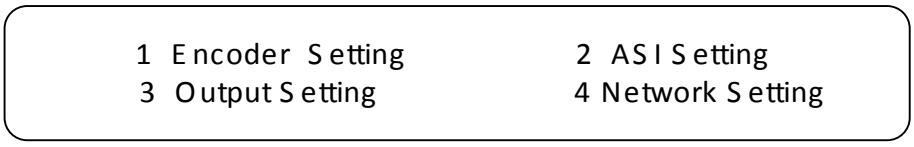


Once the unit has finished booting, the LCD will display the configured unit name and the real-time bit-rate in the first row. The second row will show real time bit-rate and stream details. PAL encoding will be labeled "P" while NTSC encoding will be labeled "N". Video bitrate will be labeled “V” while audio bitrate(s) will be labeled “A”.



3.2 General Settings

After pressing the Lock key to unlock device and enter the main menu, the LCD will display the following options:



The “►” icon represents the current selection. Users can press the "ENTER" key to navigate into the specified submenu in order to modify the device's parameters.

3.2.1 Encoder Settings

This menu contains the general settings pertaining to Video and Audio encoding. Select "Encoder 1" to configure it’s parameters.

3.2.1.1 Video Settings

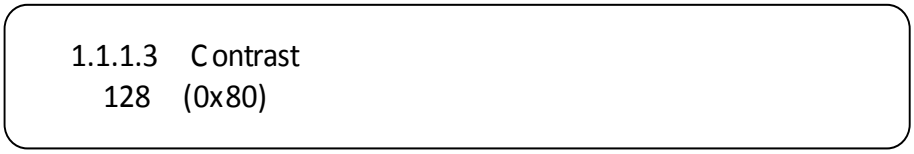
The Video Settings menu has the following sub-menus:

3.2.1.1.1 Video Input Setting

This sub-menu will allow the user to choose the encoded video format. The top right of the LCD screen will show the current and total number of pages.

3.2.1.1.2 Video Brightness/Contrast/Saturation/Hue Setting

User can adjust video Brightness, Contrast, Saturation and Hue settings in this sub-menu. The adjustable range is 0-255. The value found outside the parenthesis is a decimal while the inside value is hexadecimal.



```
1.1.1.5 Hue
 127   (0x7f)
```

3.2.1.1.3 Aspect Ratio Setting

This sub-menu will allow the user to choose between 4:3 and 16:9 (widescreen) aspect ratios.

```
1.1.1.6 AspectRatio                    01/01
 4:3          [16:9]
```

3.2.1.1.4 CodingType

This sub-menu will allow the user to choose between the supported encoding formats.

```
1.1.1.7 CodingType                     01/01
    [MPEG2]     MPEG4          H.264
```

3.2.1.1.5 Resolution Setting

In this sub-menu users can set the encoding resolution depending on their needs.

```
1.1.1.8  Resolution                    01/07
    [720*576*50I]                720*480*59.94I
```

```
1.1.1.8  Resolution                    02/07
    [352*288*50I]                352*288*59.94I
```

```
1.1.1.8  Resolution                    03/07
    [320*240*50I]                320*240*59.94I
```

```
1.1.1.8  Resolution                    04/07
    [320*180*50I]                320*180*59.94I
```

```
1.1.1.8  Resolution                    05/07
    [176*144*50I]                  176*144*59.94I
```

```
1.1.1.8  Resolution                    06/07
    [160*120*50I]                  160*120*59.94I
```

```
1.1.1.8  Resolution                    07/07
    [160*90*50I]                   160*90*59.94I
```

3.2.1.1.6 Video Rate-Mode Setting

This sub-menu will allow users to choose their Video rate-mode. Unit can be configured for Constant Bitrate (CBR) or Variable Bitrate (VBR). The encoder will maintain a specific bitrate when set to CBR. Video bitrate will vary within user-set range depending on video activity if set to VBR.

```
1.1.1.9  RateMode                      01/01
   [CBR]                           VBR
```

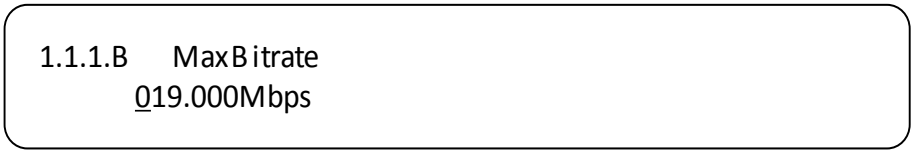
3.2.1.1.7 Bit-rate Setting

This sub-menu will allow users to set their video bit-rate. The allowable range is 0~19Mbps.

```
1.1.1.A  Bit-rate
        019.000Mbps
```

3.2.1.1.8 Maximum and Minimum Bit-Rate Setting

These sub-menus will allow users to configure the variable encoding video bitrate range. These menus will only have an effect on the Encoder output bitrate if unit is configured for VBR (Variable Bitrate) encoding.



3.2.1.2 Audio Setting

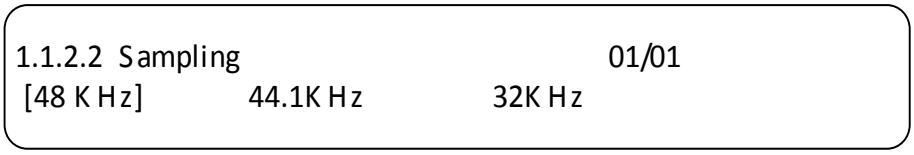
This sub-menu will allow users to configure the audio encoding parameters.

3.2.1.2.1 Audio Input Setting

This sub-menu will allow the user to choose which input will be used as an audio source. The options are: RCA, XLR & SD-SDI Embedded audio.

3.2.1.2.2 Sample Frequency Setting

This sub-menu will allow the user to choose their audio sampling frequency. The available choices are 48KHz, 44.1Khz & 32Khz.

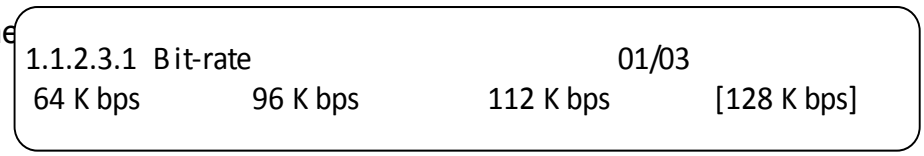


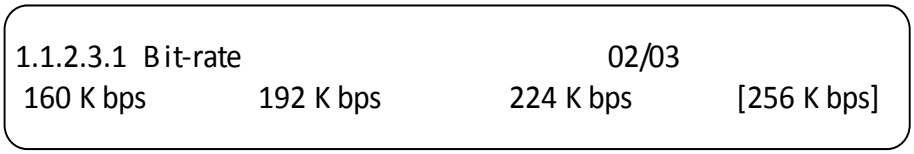
3.2.1.2.3 Audio 1 Setting

This sub-menu will allow the user to configure the individual parameters for Audio 1 Channel encoding. Available configurations are: Audio Bitrate, Audio Delay & Audio Coding Type. These changes will only affect Audio1 encoding.

3.2.1.2.3.1 Audio Bit-rate Setting

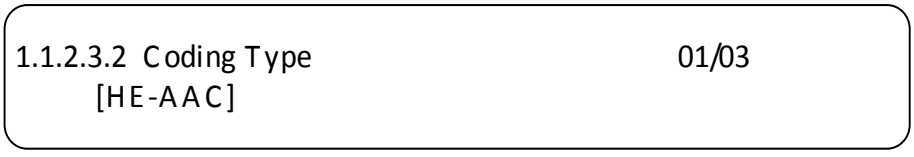
This sub-me





3.2.1.2.3.2 Coding Type Setting

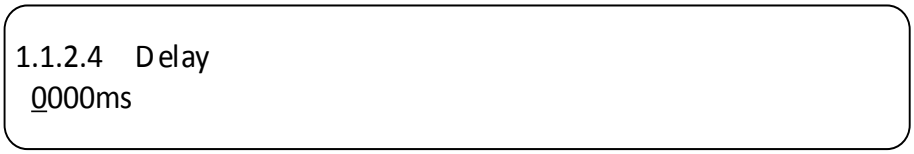
This sub-menu will allow the user to select Audio1's encoding format.



3.2.1.2.3.3 Delay Setting

This sub-menu will allow the user to add a delay to the Encoder's audio output. This feature is intended to facilitate proper Video-Audio sync. Adjusting the delay value is not

necessary if the incoming video and audio being fed into the Encoder is already in proper sync.

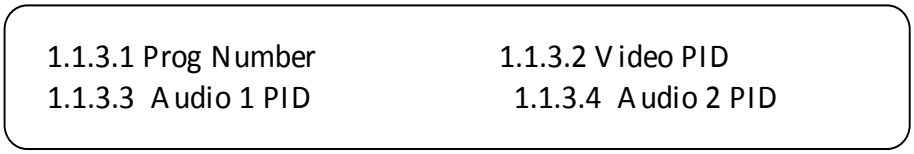


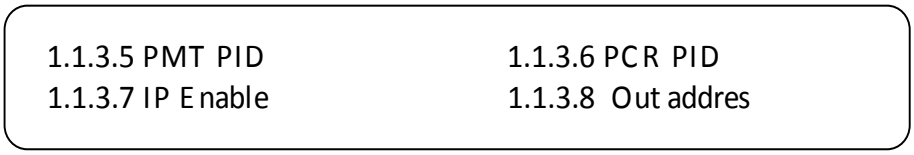
3.2.1.2.4 Audio 2 Setting

Audio2 configuration is identical to Audio1 configuration. Please refer to the previous sections regarding Audio1.

3.2.1.3 System Setting

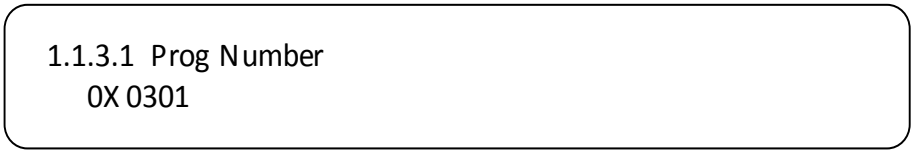
This sub-menu will allow the user to set system parameters.





3.2.1.3.1 Program Number Setting

This sub-menu will allow the user to set the program number.



3.2.1.3.2 Video/Audio/PMT/PCR PID Setting

This sub-menu will allow the user to set relevant PIDs. The maximum value cannot exceed 0x1fff.

```
1.1.3.2  Audio  PID
       0x0301
```

```
1.1.3.3  Audio 1  PID
       0x0302
```

```
1.1.3.4  Audio 2  PID
       0x0303
```

```
1.1.3.5 PMT  PID
       0x0300
```

```
1.1.3.6 PCR  PID
       0x0301
```

3.2.1.3.3 IP Enable

This sub-menu will allow the user to enable or disable the unit's IP output.

```
1.1.3.7 IP Enable              01/01
  YES            [       NO        ]
```

3.2.1.3.4 Outgoing Address Setting

This sub-menu will allow the user to set the destination IP for the unit's TSIP broadcast.

```
1.1.3.8        Out Address
    224.002.002.002
```

3.2.1.3.5 Output Port Number Setting

This sub-menu will allow the user to configure the outgoing TSIP port.

```
1.1.3.8        Out Port
      1004
```

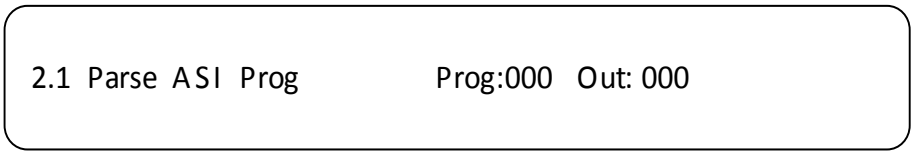
3.2.1.4 Program Mux Setting

This sub-menu will allow the user to enable or disable the multiplexer.

3.2.2 ASI Setting

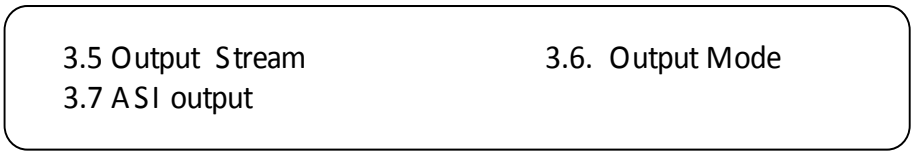
This sub-menu will allow the user to check the number of incoming ASI programs.

The number of available programs and how many are outgoing will then be displayed.



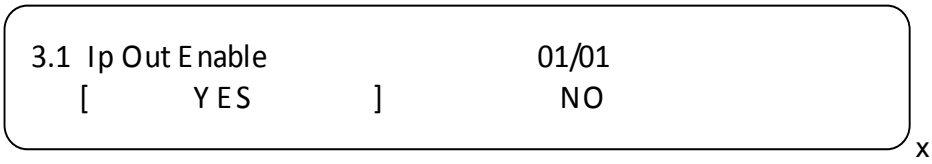
3.2.3 Output Setting

This sub-menu will allow the user to configure additional Encoder output settings.



3.2.3.1 IP output Enable Setting

This sub-menu will allow the user to enable or disable Muxed (Encoded program and ASI) TSIP output. This sub-menu is not to be confused with sub-menu 3.2.1.3.3 that would only broadcast the encoded video.

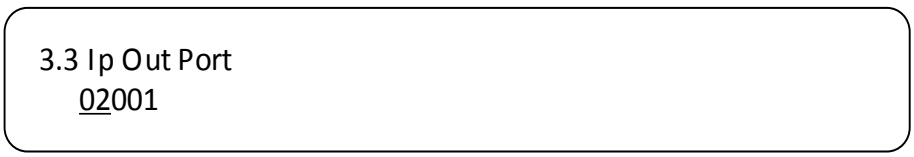


3.2.3.2 IP out Address Setting

When IP output mode has been set to "ENCODER" user can enter IP output interface address. If the output mode has been set to "MPTS" then configuration in this field will have no effect.

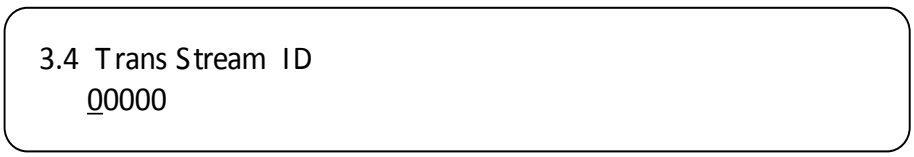
3.2.3.3 IP output Port Number Setting

This sub-menu will allow the user to select the TSIP output port. Unit output must be set to 'Encoder' (sub-menu 3.2.3.6) rather than MPTS for this function to work.



3.2.3.4 Trans Stream ID Setting

This sub-menu will allow the user to select the Trans Stream ID.

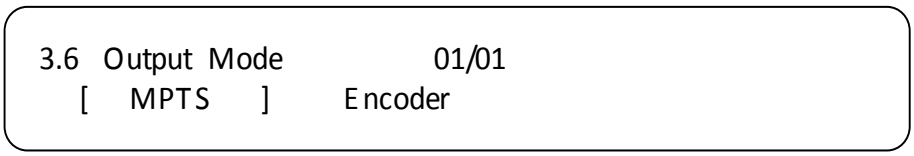


3.2.3.5 Output Stream

This sub-menu will allow the user to set the total (aggregate) Output Stream Bitrate. This value should be big enough to contain Video, Audio and Overhead data.

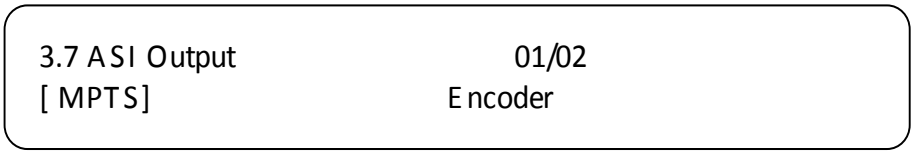
3.2.3.6 Output Mode Setting

This sub-menu will allow the user to select between MPTS and Encoder output modes. Selecting 'Encoder' (SPTS) means the outgoing stream will only have one program.



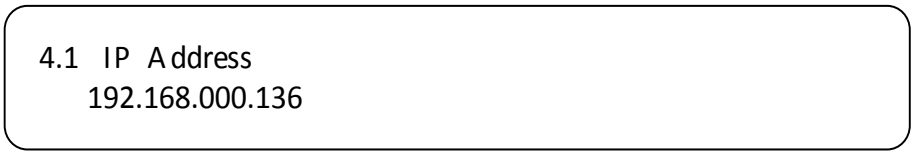
3.2.3.7 ASI Output Setting

This sub-menu will allow the user to select the ASI Output content.



3.2.4 Network Settings

This sub-menu will allow the user to configure the Encoder's network parameters.



3.2.4.1 MAC Address Setting

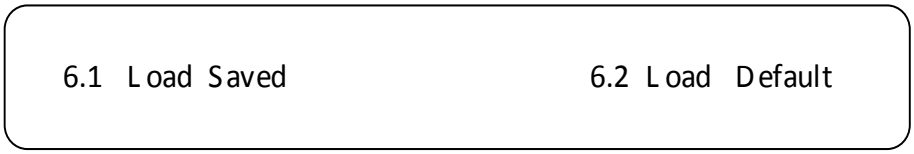
This sub-menu will allow the user to check the unit's Network Interface Card MAC address. This value is read-only and cannot be changed here.

3.2.5 Saving Configuration

This sub-menu will allow the user to save the current configuration to memory.

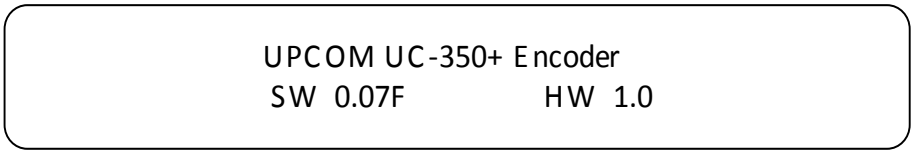
3.2.6 Loading Configuration

This sub-menu will allow the user to load previously saved configurations.



3.2.7 Version

This sub-menu will allow the user to check the Encoder's current Software (SW) and Hardware (HW) versions.



Chapter 4 NMS Control

Network Management System Profile

A Network Management System centralizes digital TV equipment through a computer network. A Network Management System (NMS) can support a variety of devices. Most modern broadcasting systems are NMS capable. Users will be able to remotely monitor and control the UC-350E through a NMS.

4.1 Installation

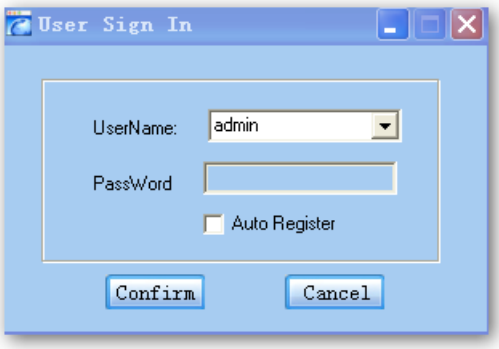
The NMS software can be copied onto a user's hard drive. A full installation is not required. The software will create two files in its directory when running:

- Network management software X.XXY.log (Log File)
- Info.bin (User configuration data)

4.2 Software Operation

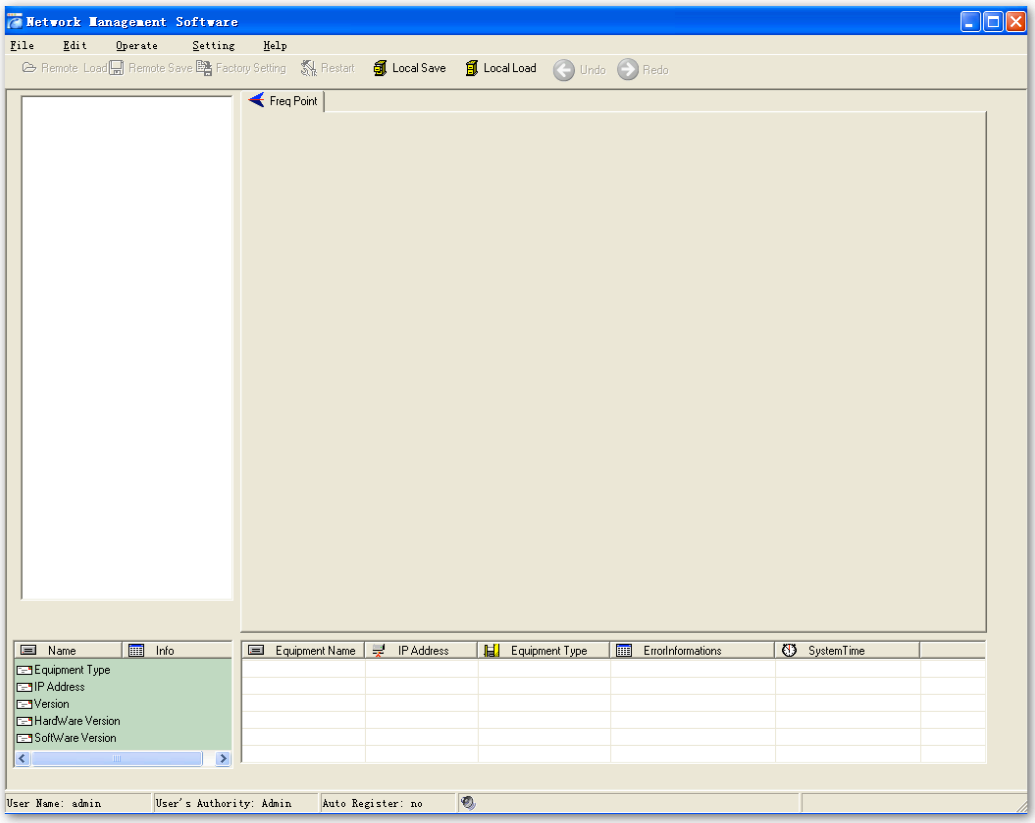
4.2.1 Login Interface

A login interface will appear when trying to run the NMS software.



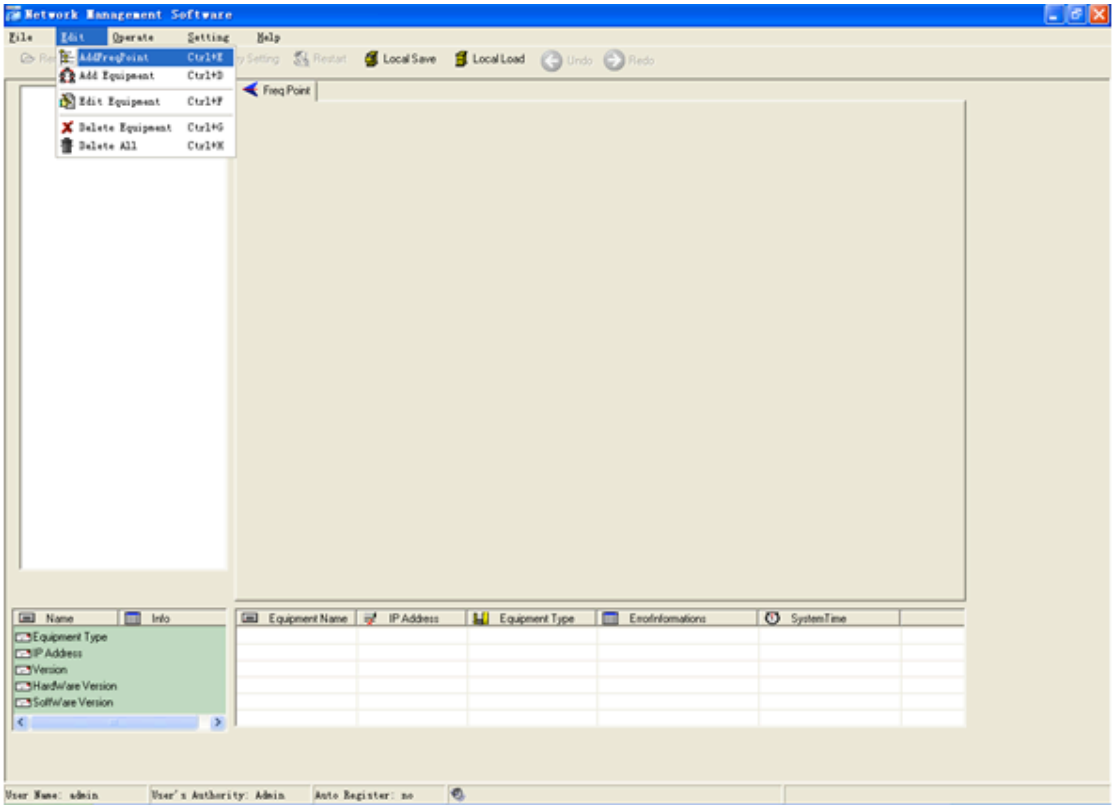
Users can login using default credentials (Username & Password: 'admin').

4.2.2 Main Interface

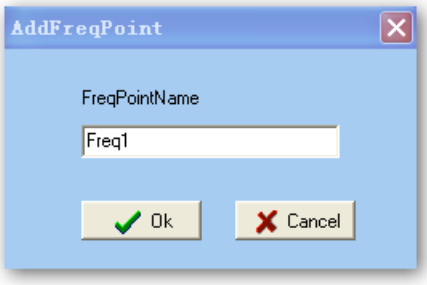


This software will allow the user to edit various parameters in the device tree for management and classification.

4.2.3 Adding Frequency Point



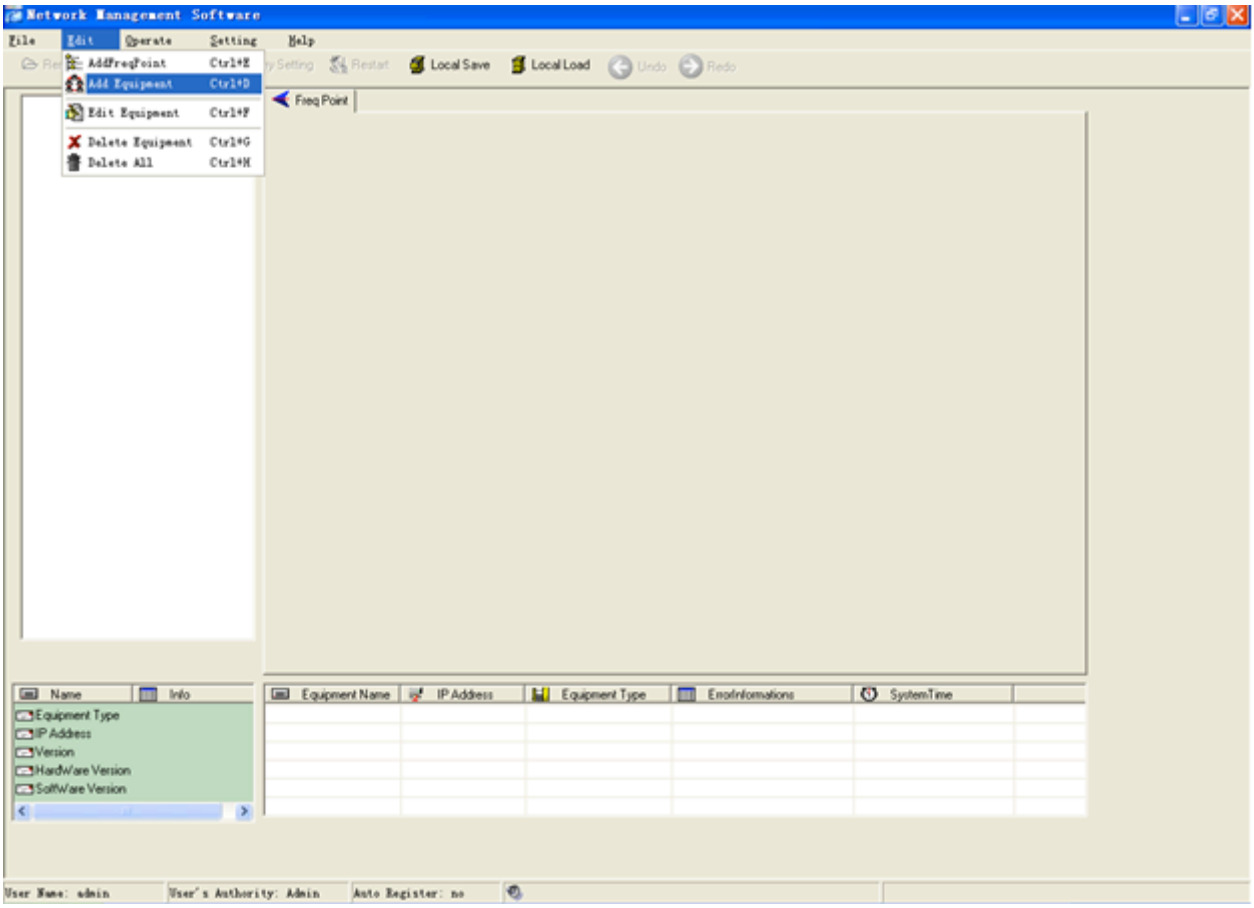
To begin, add a Frequency Point. This can be done by clicking "Add Freq Point" within the 'Edit' drop down menu.



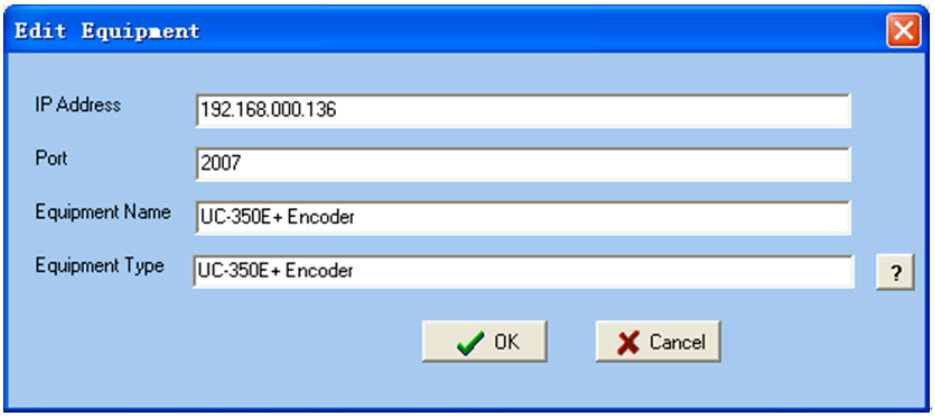
Alternatively, users can right click on an empty section of the left hand side column to pop up a short-cut menu and selecting "Add Main Freq Point".

4.2.4 Adding Equipment under a given Frequency Point

When a Freq Point is selected, users can add equipment by right clicking then selecting 'Add Equipment' within the 'Edit' drop down menu.



4.2.5 Edit Equipment Interface

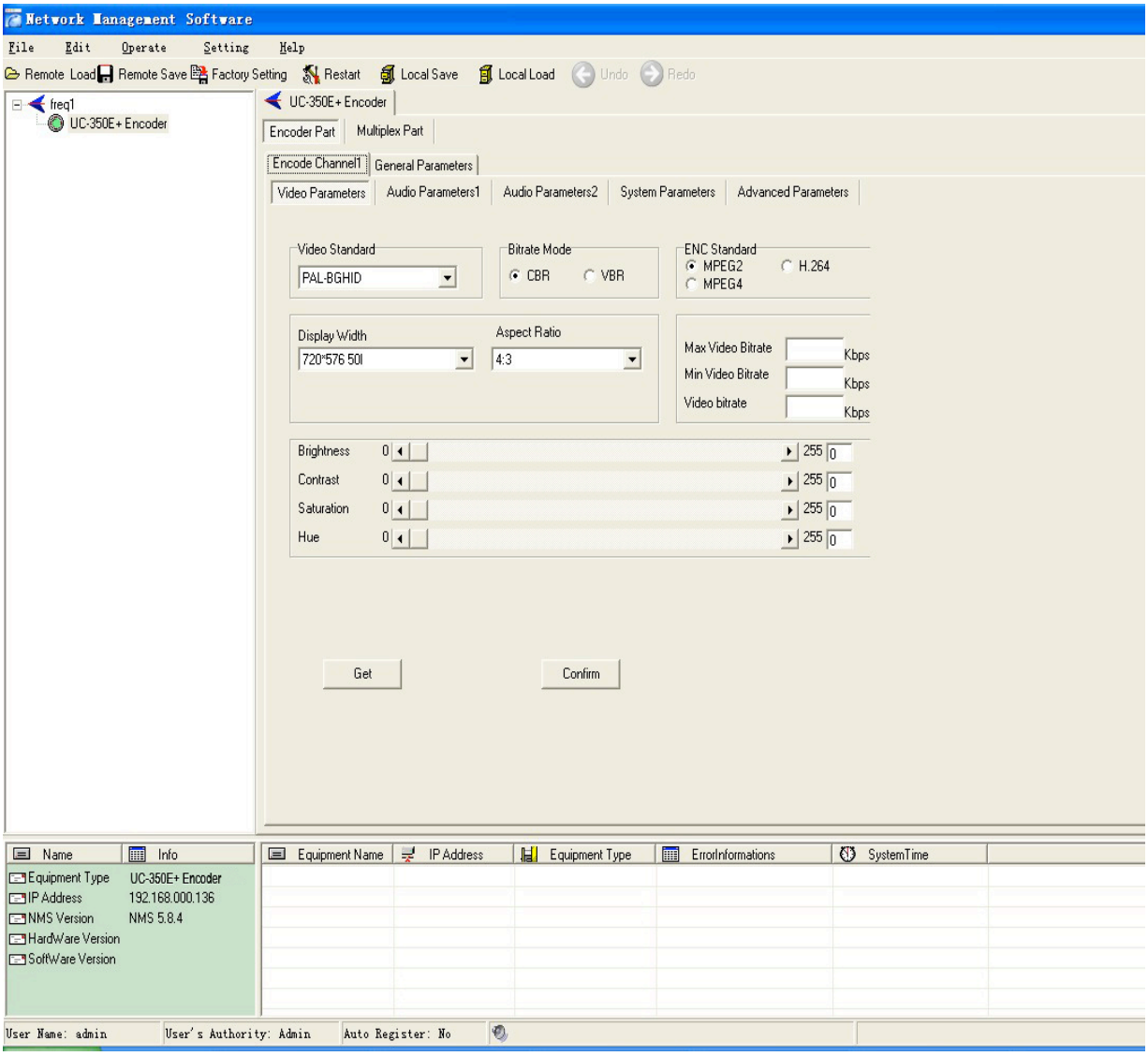


Users should follow the steps as below:

- Enter the device IP Address
- Enter the device Port Number (Default: 2007)
- Enter the desired Equipment Name
- Choose the correct equipment type in the drop down list of "Equipment Type" by clicking the "▼" or click symbol "?" to automatically determine the equipment type.

4.2.6 Deleting Equipment

Users can remove equipment from device chains by right clicking the intended target and selecting "Delete" in the pop-up menu.



4

.2.7 Save Configuration

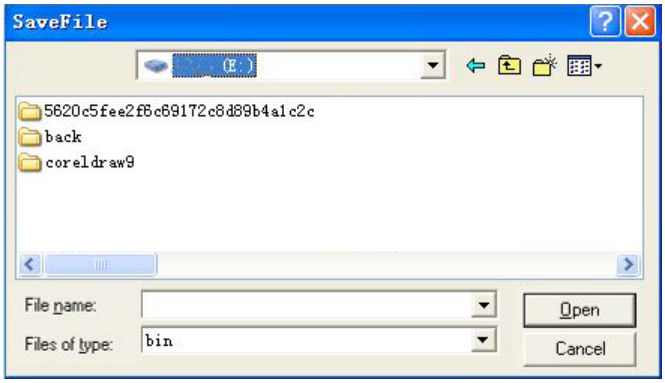
Once satisfied with configured settings users can commit the changes to memory by clicking the

button on the toolbar. Previous settings can be reloaded from memory by clicking the

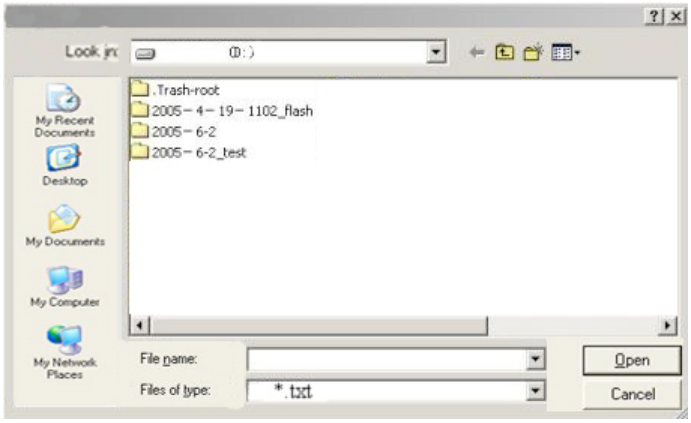
button.

Users can also save and load setting configurations to their computer's hard drive. Clicking the

button will pop-up a "Save File" dialog box which will allow users to choose their configuration file destination.



Similarly, users can click the Local Load button to popup the "Read File" dialog box. User can then choose which configuration file to load unto the device.



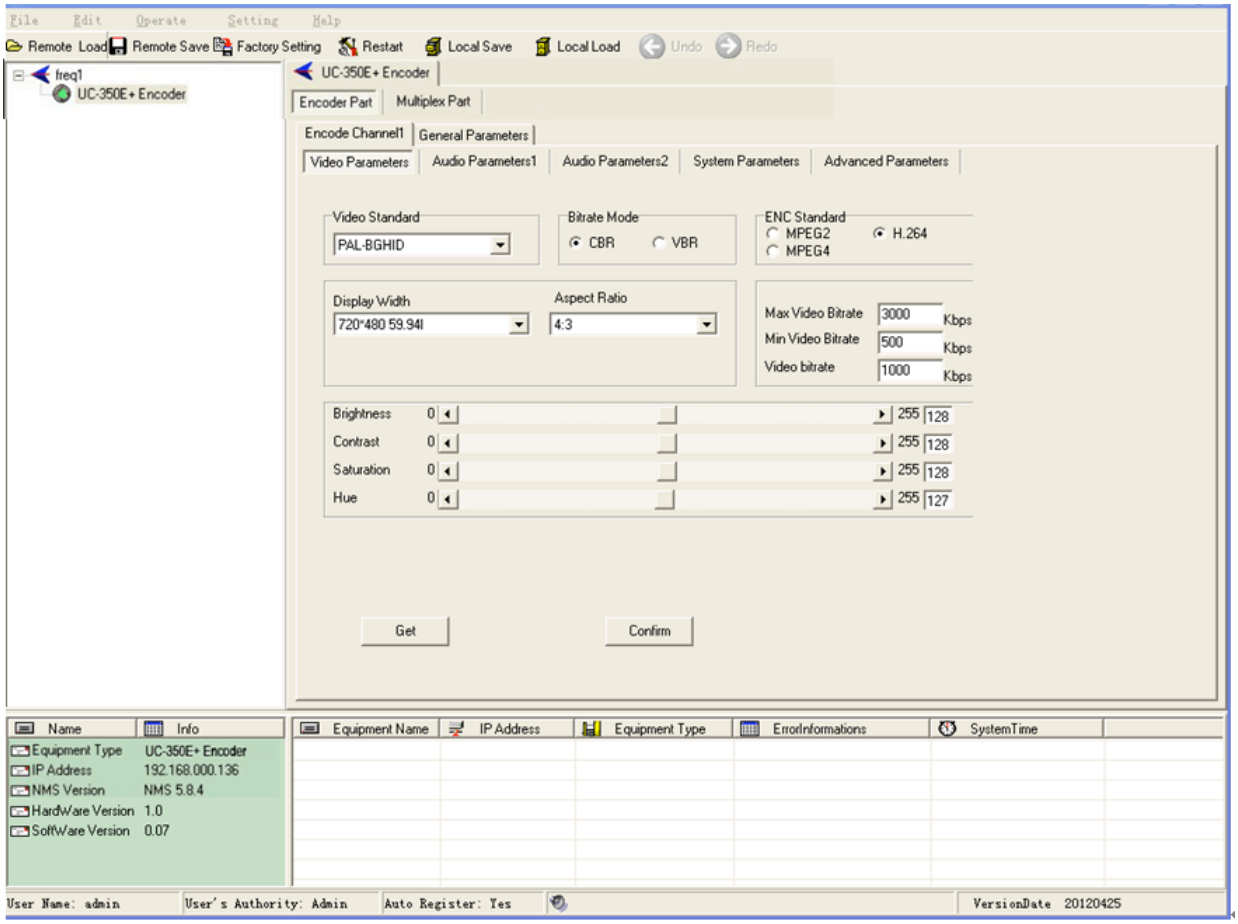
4.3 UC-350E+ Encoder Operation

Selecting the UC-350E will display the device's configuration in the right hand side operations panel. The interface is mainly composed of encoding video parameters, audio parameters and the encoding system parameters, etc.

Confirm: Activates changes to configured parameters. (Note: If the Remote Save button is not clicked, the device will lose current parameters after rebooting the device)

Get: Reads the device current settings and displays them in the operations panel.

4.3.1 Encoding Part Setting



4.3.1.1 Video Standard Setting

In this interface, users can set the video standard. There are two options; NTSC and PAL. Users can select different video formats through the pull-down list.

4.3.1.2 Bit-Rate Mode

This interface will allow the user to select between CBR and VBR encoding. Users can refer to chapter 3 for additional information.

4.3.1.3 Encoding Standard Setting

There are three encoding formats from which users can select according to their needs: MPEG-2, MPEG-4 and H.264.

4.3.1.4 Display Width

This low bit-rate encoder can support a various kinds of resolution, and users can select the corresponding bit-rate through the pull-down list.

This interface will allow users to select encoding resolution and BitRate.

4.3.1.5 Aspect Ratio

This interface will allow users to select between 4:3 and 16:9 (widescreen) aspect ratios.

4.3.1.6 Max/Min Video Bit-rate

When the device is set to VBR encoding users should specify the allowable Bitrate range.

4.3.1.7 Video Bit-rate Setting

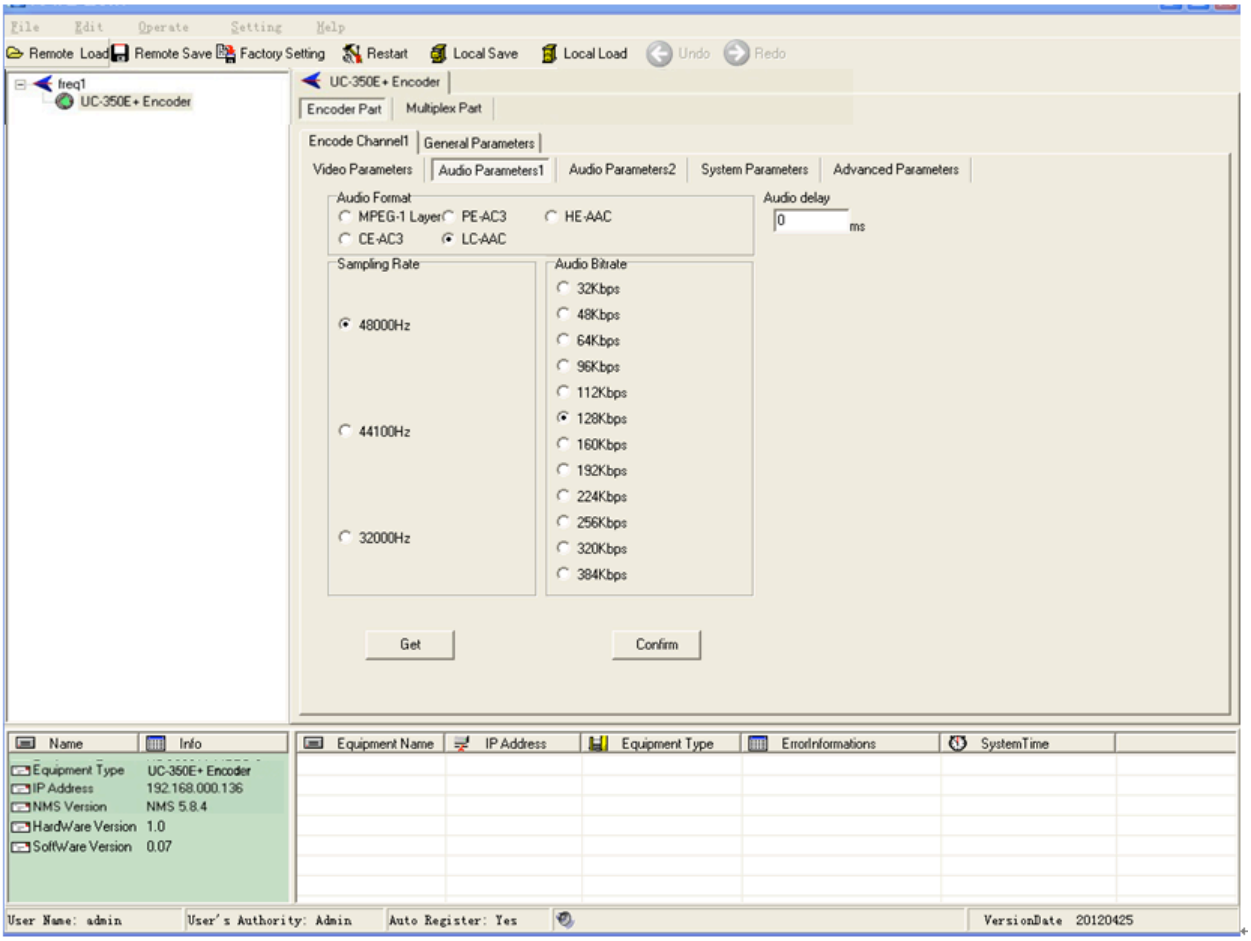
In this field, users can set the video Bitrate.

4.3.1.8 Video Brightness/Contrast/Saturation and Hue Setting

These sub-menus will allow users to adjust video parameters. The allowable range is 0~255. The values outside the parentheses is decimal while the inside value is hexadecimal.

4.3.2 Audio 1 Parameter Setting

In this field users can set the corresponding input audio parameters such as the format, sampling rate, Bitrate and delay time.



4.3.2.1 Audio Format Setting

This field will allow users to select the encoded audio format.

4.3.2.2 Sampling Rate Setting

This field will allow users to select the sampling frequency. Available choices are: 48000Hz, 44100Hz and 32000Hz.

4.3.2.3 Audio Bit-rate

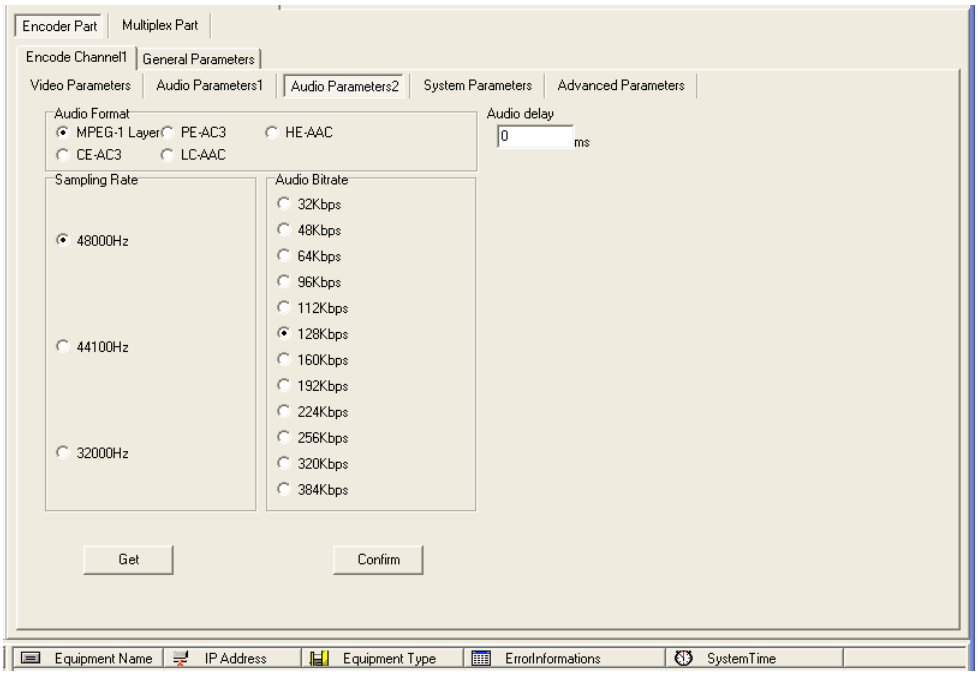
Users can set the Audio Bitrate in this field.

4.3.2.4 Audio Delay

This field will allow users to enter Audio delay timing. This is not necessary if the video and audio being fed into the device is already in proper sync.

4.3.3 Audio 2 Parameter Setting

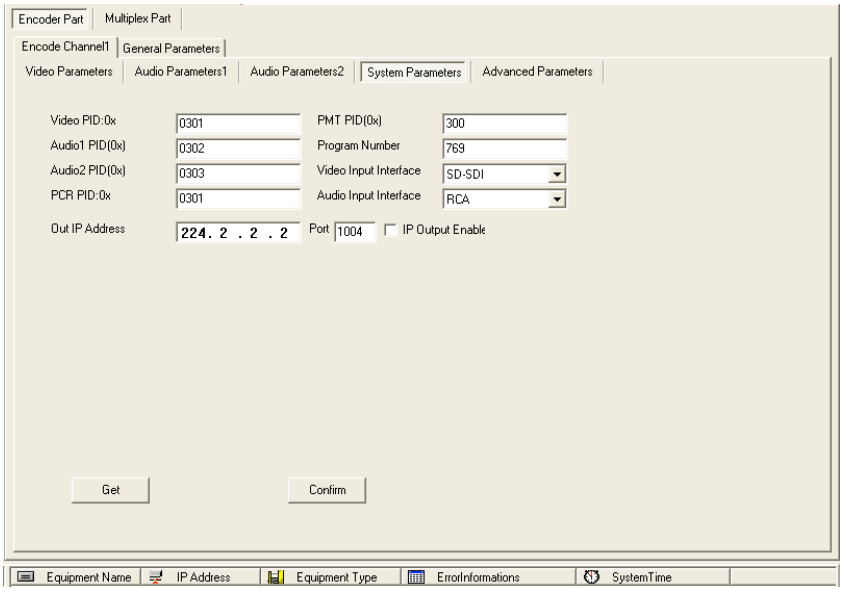
The operation of Audio parameters 2 is the same as Audio 1.



4.3.4 System Parameters

In this field, users can set the corresponding channel parameters, such as the output IP address, output IP port number.

This sub-menu will allow users to input additional channel PID information, IP output address and Video\Audio input interfaces.



4.3.4.1 Video PID

This field sets Video PID. The value ranges from 0 to 0 x1FFF.

4.3.4.2 PMT PID

This field sets PMT PID. The value ranges from 0 to 0x1FFF.

4.3.4.3 Audio1&Audio2 PID

This field sets Audio PID. The value ranges from 0 to 0 x1FFF.

4.3.4.4 PCR PID

This field sets PCR PID. The value ranges from 0 to 0 x1FFF.

4.3.4.5 Program Number

This field sets the number of programs.

4.3.4.6 Video Input Interface

User can select the video input interface from the pull down list.

4.3.4.7 Audio Input Interface

User can select the audio input interface from the pull down list.

4.3.4.8 Out IP Address/Port Setting

In this interface, users can set the streaming output IP address and the associated port.

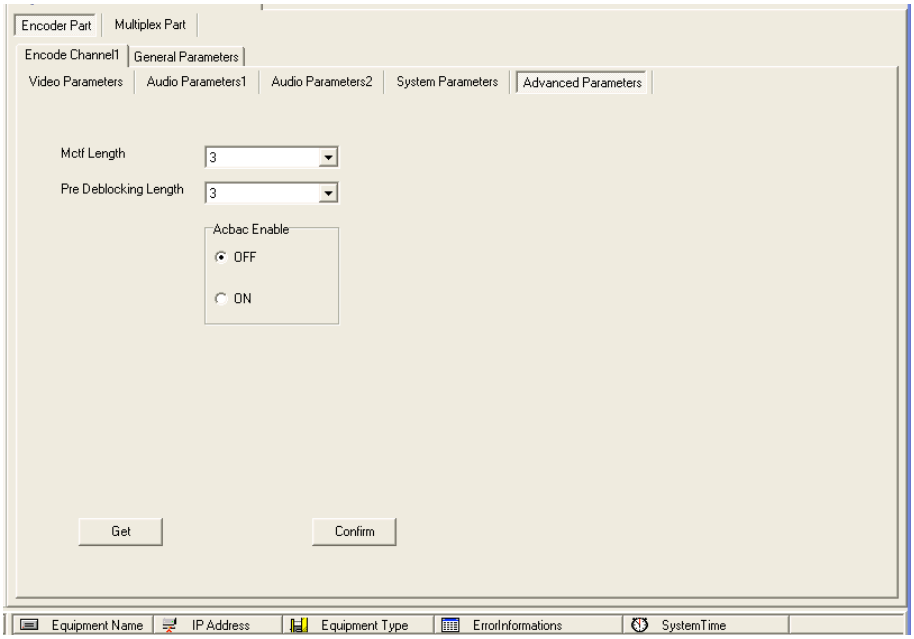
4.3.4.9 IP Output Enable

Checking the

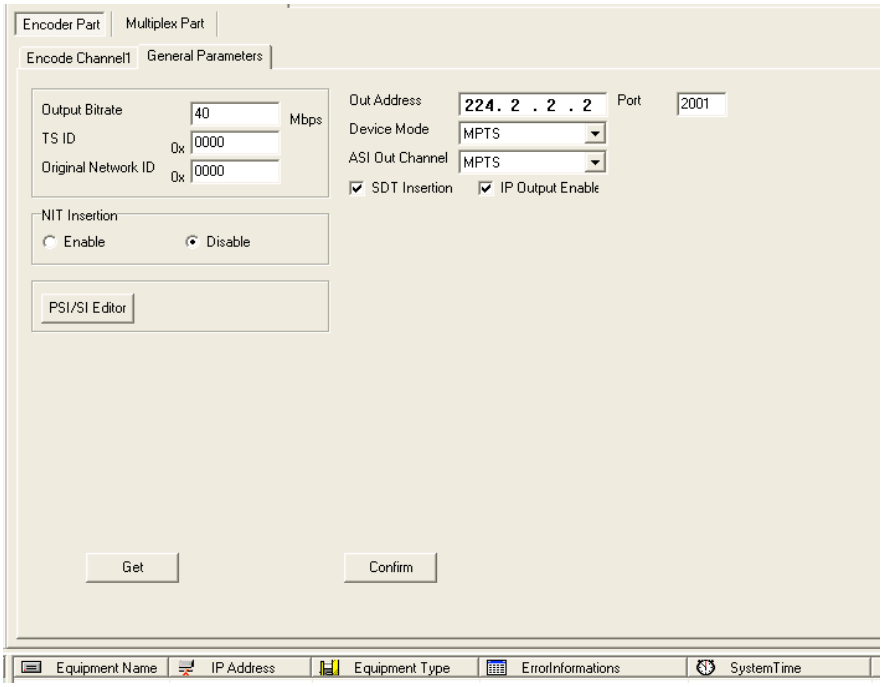
box will enable IP output.

4.3.5 Advanced Parameters Setting

Users can set the Mctf Length, Pre Deblocking Length, Acbac Enable in this interface.



4.3.6 General Parameters Setting



4.3.6.1 Output Bit-rate

Users can set the encoder output bit-rate in this filed by entering the desired value in the relevant field.

4.3.6.2 TS ID

This field will allow users to set their TS ID. The potential value ranges from 0 to 0xFFFF.

4.3.6.3 Original Network ID

This field allows users to set their Network ID. The possible values range from 0 to 0xFFFF.

4.3.6.4 Output Address and Port Number

Users can set the encoder IP output address and port number in this filed.

4.3.6.5 Device Mode

Users can set the Encoder IP output Mode in this field by selecting between MPTS and Encoder through the pull-down list. MPTS means that the output stream from the DATA port is MPTS, while Encoder means that the output stream from the DATA port is SPTS.

4.3.6.6 ASI Output Channel

Users can set the Encoder ASI output Mode in this field by selecting between MPTS and Encoder through the pull-down list. MPTS means that the output stream from the DATA port is MPTS (Multi Program), while Encoder means that the output stream from the ASI port is SPTS (Single Program).

4.3.6.7 SDT Insertion

Enables the SDT insertion function.

4.3.6.8 IP Output Enable

Users can decide whether to enable the IP output function by selecting the checkbox.

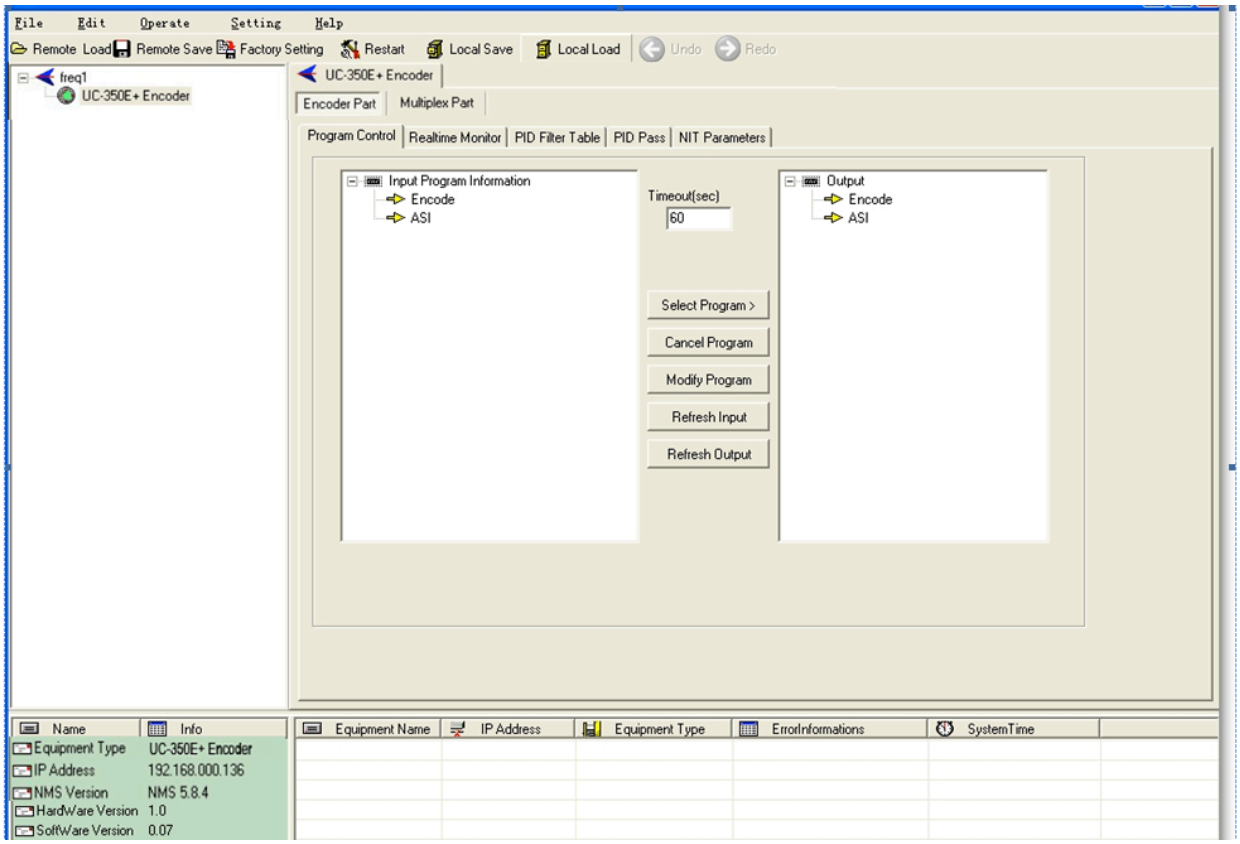
4.3.6.9 NIT Insertion

Users can decide whether to enable the NIT insertion function in this filed.

4.3.6.10 PSI/SI Editor

This button will trigger the PSI/SI Editor for some advanced users' usage.

4.3.7 ASI Input Multiplexing Setting



The programs in the left column represent all input programs, while the programs in the right column represent the output programs. The "Encode" program section represents the 1 encoded channel. The "ASI" program section contains the ASI input programming. User can parse the programs from both sources and multiplex those programs for combined output. Moreover, user can modify the output programs' Program Name, PMT, PCR, video, and audio PIDs.

4.3.7.1 Select Program

Users can select an incoming program from the ASI input port and click the "Select Program" button to include it in the multiplexed ASI/IP output.

4.3.7.2 Cancel Program

User can delete the selected program from the output TS.

4.3.7.3 Modify Program

User can trigger a window to modify the program's properties and attributes such as the

program name and program PID.

4.3.7.4 Refresh Input

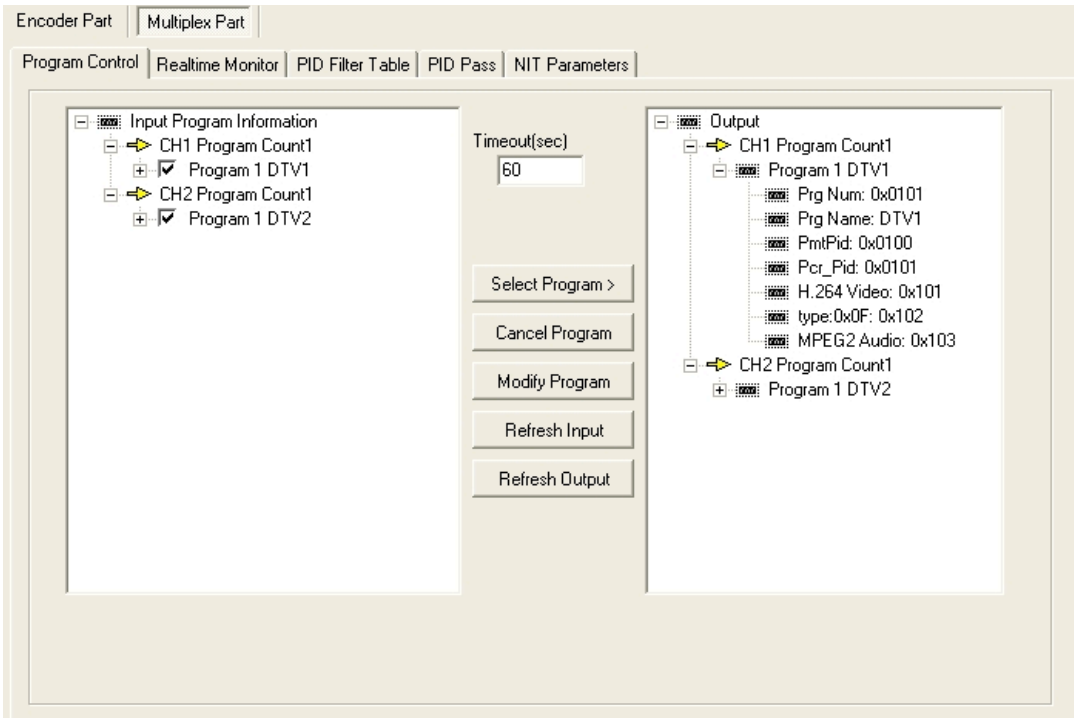
Clicking this button will refresh the list of incoming ASI programming.

4.3.7.5 Refresh Output

Clicking this button will refresh the list of outgoing ASI programming.

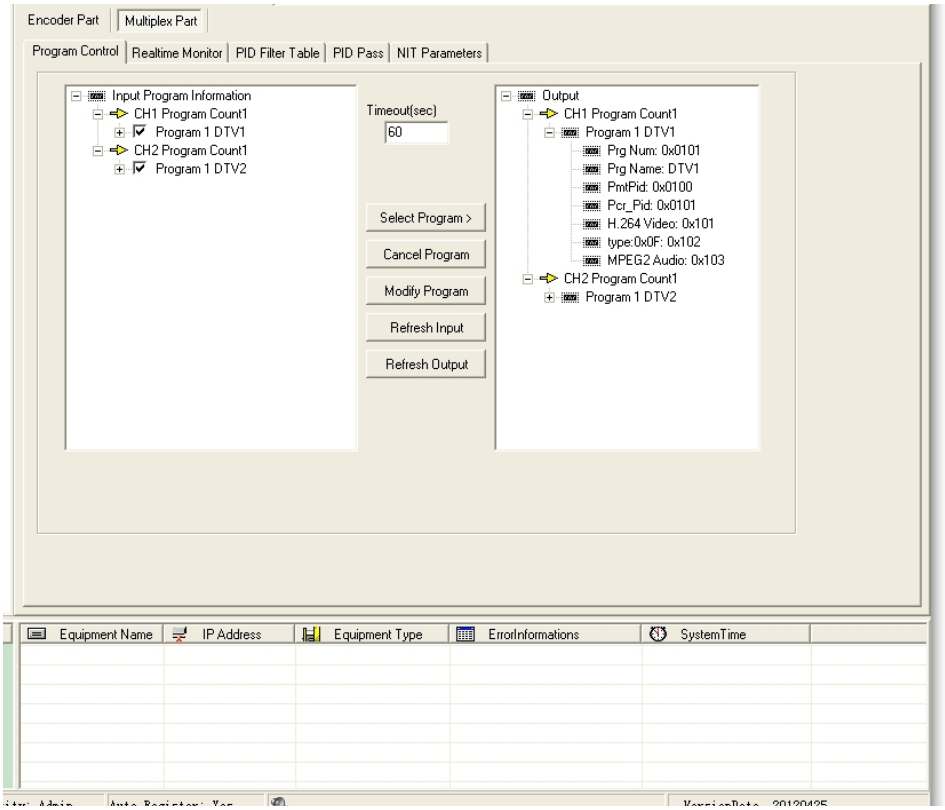
4.3.7.6 Multiplexing Operation

Encoded programming will be multiplexed by default. The "√" symbol means the ASI program has been multiplexed to the Output TS.

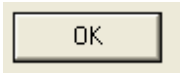


By default, no ASI programs will be multiplexed. User can select which programs to multiplex by clicking the relevant program names and then the

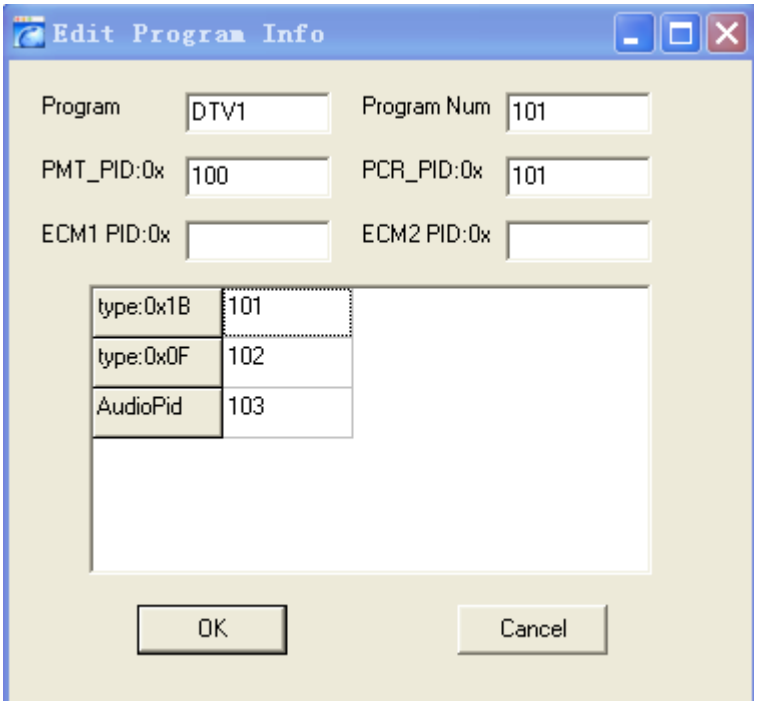
button. The selections will then be added to the output TS.



User can choose any program of the output channels, and then click

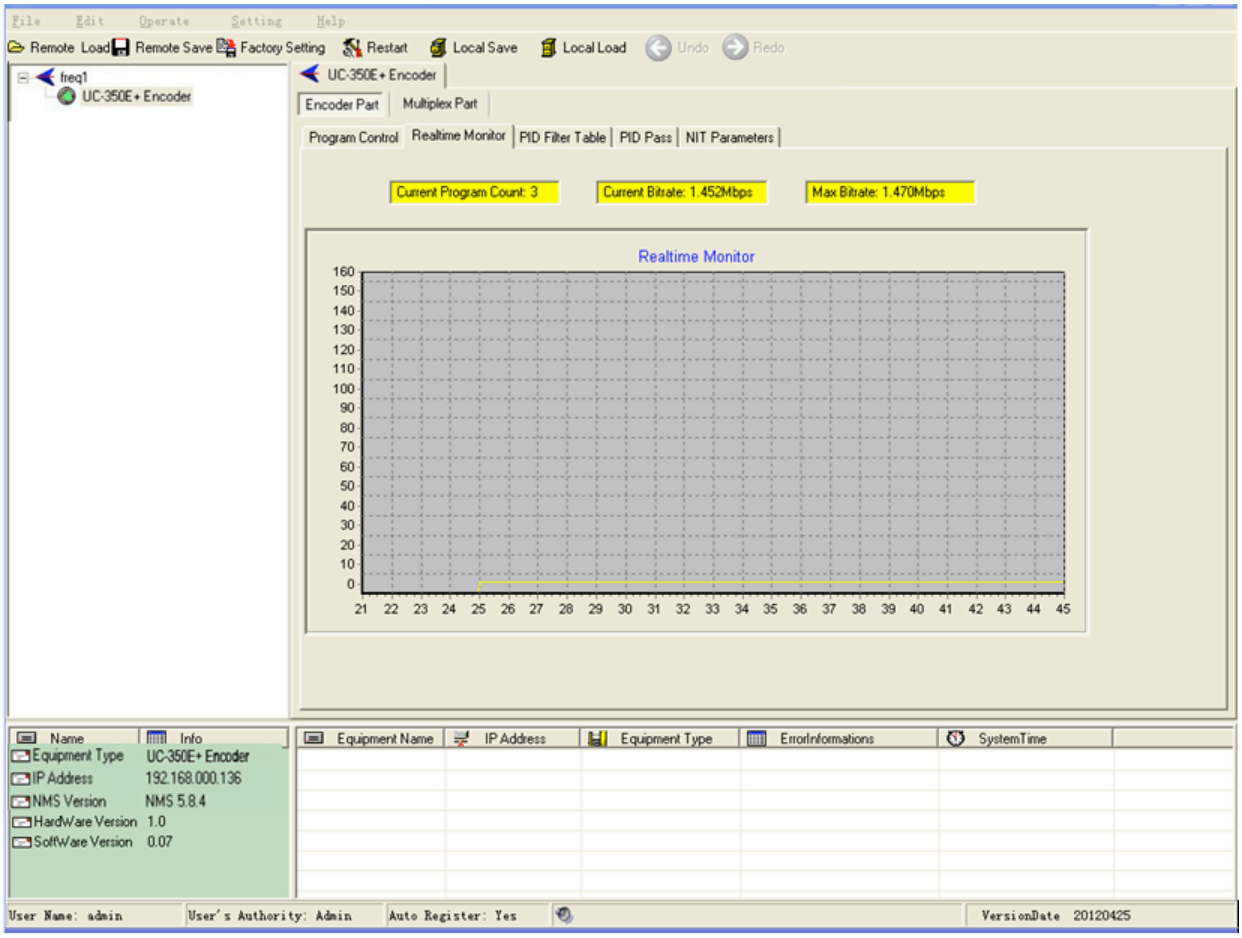
button to pop up the program modify interface. After modification, user can click 

to confirm. System will automatically refresh new output programming.



4.3.7.7 Real-time Monitoring of Output Stream

The current total output stream and the number of output programs will be displayed on this table for live monitoring.



4.3.7.7.1 Current Program Number

This field indicates the number of the programs in the output TS.

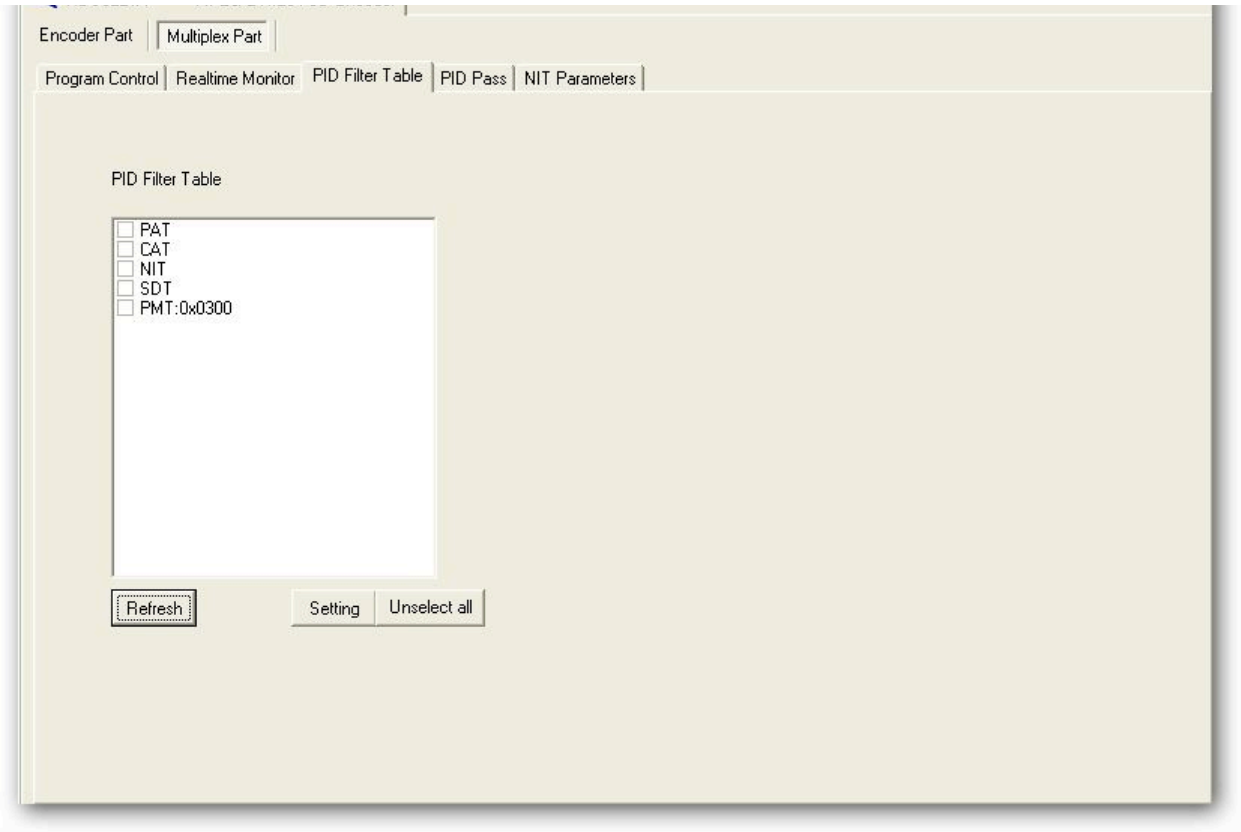
4.3.7.7.2 Current Bit-rate

This field indicates the output TS's real-time effective bit-rate.

4.3.7.7.3 Maximum Bit-rate

This field indicates the maximum bit-rate that the output TS's real-time effective bit-rate ever reached.

4.3.7.8 PID Filter Table

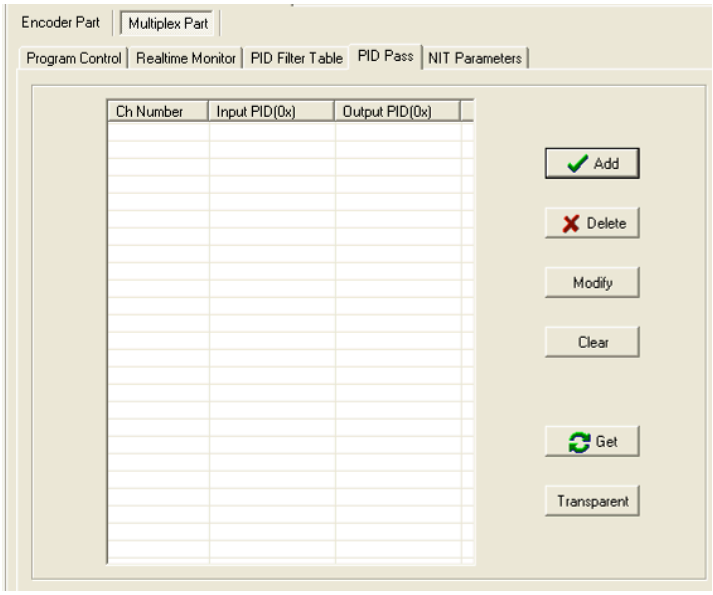


Refresh: Gets the PID filter table from the device

Setting: Submits the PID filter table to the device

Unselect All: Clears all selections

4.3.7.9 PID Pass



The PID pass function will allow users to pass unmodified desired PIDs which may not

belong to any programs. This can include but is not limited to NIT tables and EPG PIDs.

4.3.7.9.1 Channel Number

Users can check the corresponding PID channel number in this field.

4.3.7.9.2 Input PID and Output PID

The Old (Input) PID is the PID number in the TS from given Port. The corresponding New (output) PID can be altered if required.

4.3.7.9.3 Add

Users can add the transparent pass PID into the "PID Pass" by clicking this button.

4.3.7.9.4 Delete

User can click the selected PID and then click "delete" button to delete a transparent pass PID from the "PID Pass" list.

4.3.7.9.5 Modify

User can click the selected PID and then click "modify" button to modify a transparent pass PID's information in the "PID Pass" list.

4.3.7.9.6 Clear

Users can empty the "PID Pass" list.

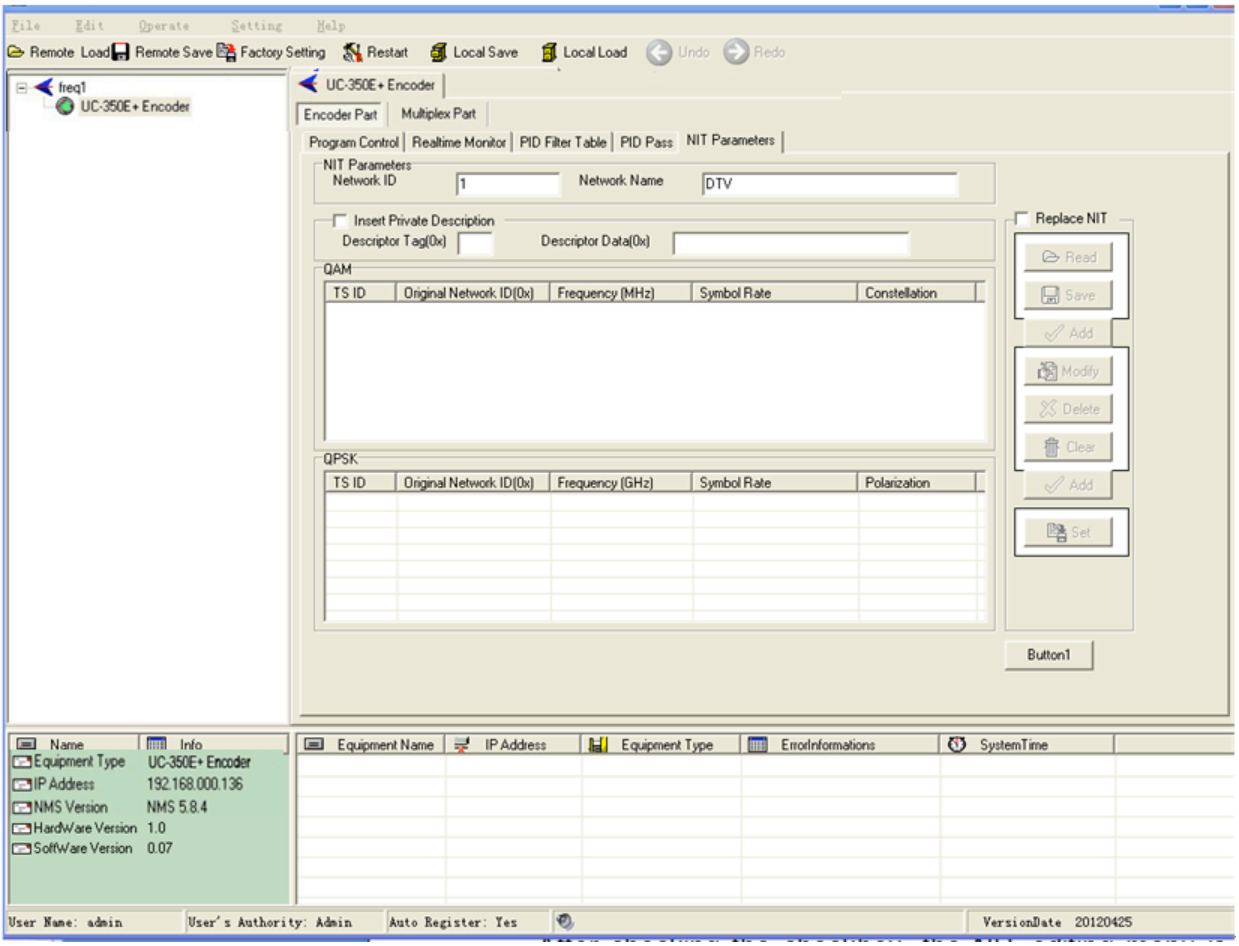
4.3.7.9.7 Get

Users can read the "PID Pass" list from device.

4.3.7.9.9 Transparent

Users can turn the corresponding PID information transparent in the output TS stream.

4.3.7.10 NIT Table



NIT: Network Information Table.

4.3.7.10.1 NIT Parameters

User can set the network ID and network name in the field.

Network ID: This describes the output TS Network ID.

Network Name: This parameter describes the output TS's network name.

Private Descriptor: This checkbox will allow user to insert the private descriptor into the output TS. The private descriptor includes two parts: one is a descriptor tag, and the other is the descriptor information.

Descriptor tag: The descriptor tag is an 8-bit field which identifies each descriptor.

4.3.7.10.2 Editing NIT table

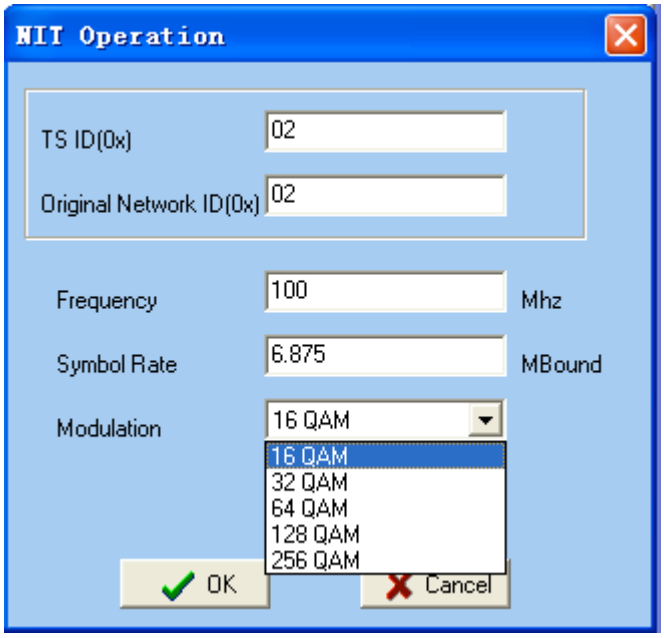
After checking the checkbox, the NIT editing menu is active. The will also insert the EIT table into the output TS.

4.3.7.10.3 Read and Save

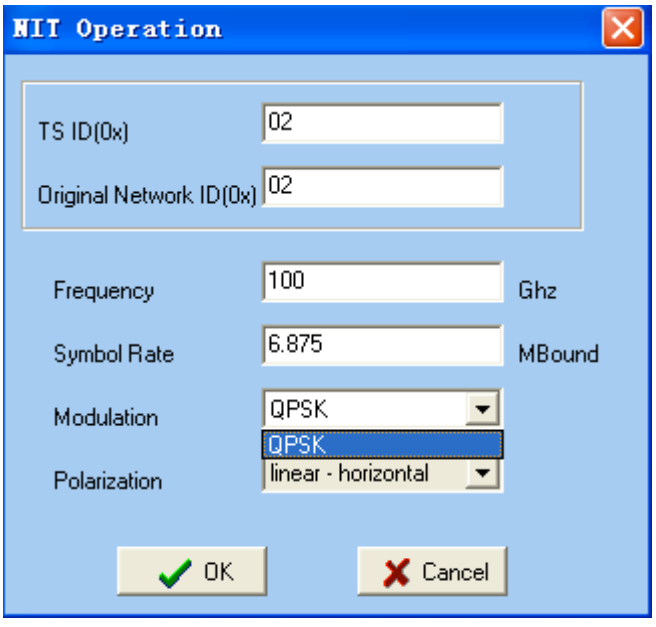
These two buttons will trigger a window to load/save the current NIT table file from/to a file on local computer hard-disk.

4.3.7.10.4 Add

There are 2 "Add" buttons on the editing toolbar. The upper one is for DVB-C network. By pressing the "Add" button, user will trigger an editing window from which they can set the corresponding parameters in the trigged checkbox.



The next "Add" button is for DVB-S networks. It will also trigger an editing window after clicking.



4.3.7.10.5 Modify

The modify button will trigger a pop-up window and allow user to modify the selected items in the NIT table.

4.3.7.10.6 Delete

The "Delete" button will remove the selected items in the NIT table.

4.3.7.10.7 Clear

The Clear button will remove all the items in the NIT table.

4.3.7.10.8 Set the NIT table effect

Users can click the Set button to take the NIT table setting into effect.

Chapter 5 Troubleshooting

Our ISO9001 quality assurance program has been approved by the CQC. All Upcom products pass testing and inspection before shipment. Please follow all instructions in this manual for proper device operation.

Immediately Unplug the device if:

- Power cord or socket damage occurs.
- Any liquid flowed into the device.
- Any dust causes a short circuit.
- Device is present in a damp environment.
- Device suffers from physical damage.
- Long term idle periods are planned.
- Maintenance is needed.

Chapter 6 Packing list

- UC-350E+ Encoder 1pcs
- Audio and Video Cables 4pcs
- ASI cable 1pcs
- XLR interface cable 1pcs
- Power cord 1pcs